CLAIMS:

1. Method for handling gas diffusion of airships and other balloons to clean gases diffused through envelopes of airships and other balloons,

characterized by that,

the envelope of gas container spaces, in given case airships, lifting balloons and hose-containers is appropriately structurized in addition to the traditional passive separation by one or more separator spaces and in said envelope, certain methods in connection with or without the layers of the material-membrane of the envelope, influencing gas-diffusion are operated intermittently or continuously in an active way.

2. Method according to claim 1 characterized by that gases diffused into the multi-layer bordering structure of the envelope are separated by a disjunctive separation, during which the gases having penetrated into the separator space are separated from the mixture of these separator spaces by physical and/or chemical action and forwarded back to their sources.

3. Method according to claim 1 or 2 characterized by that the gases having penetrated into the separator space or spaces – even in small quantities reduced by EDI (Electrical Diffusion Inhibitor) – forming compounds there, are extracted, separated and forwarded back to their sources, by well-known, suitably adapted gas-handling methods and equipment, or in an other way, for example by piping them into a fuel cell are utilized.

4. Method according to any of claims 1 to 3 characterized by that two separator spaces are applied in the null-diffusion envelope and the lift space is filled with hydrogene and/or helium.

5. Method according to any of claims 1 to 3 characterized by that, in case of active isolation envelope structure three separator spaces are applied and the lift space is filled with helium.

6. Method according to any of claims 1 to 5 characterized by that, during the method electrical gas diffusion inhibitor (EDI) is applied, which is a physical effect in the layers of the material membrane, which is able to decrease absorption and penetration of gases in these layers, in given case it is a static and/or alternating current potential space.

7. Method according to any of claims 1 to 6 characterized by that, there is physical, respectively chemical action applied and/or included influencing gas-diffusion, in given case gas absorption and/or penetration in minimum one material-membrane and/or separator space.

8. Method according to any of claims 1 to 7 characterized by that, there is vacuum gas-compound extraction in minimum one of the separator spaces.

9. Method according to any of claims 1 to 8 characterized by that, there is basic compound gas of positive or negative pressure applied as intermediate gas-trap in minimum one of the separator spaces.

10. Method according to any of claims 1 to 9 characterized by that gases having penetrated into any of the separator spaces, forming there compounds are separated by separating methods (disjunctive separation), for example adsorption, chemo-sorption, perm-selective membranes, by liquefaction, fractional distillation etc.) are broken down and in given case are led back to their sources or are utilized by other ways.

11. Method according to any of claims 1 to 10 characterized by that, there is a method influencing gas diffusion, e.g. gas absorption inhibition and/or cavitation filtering of electrokinetics microstructure applied in minimum one of the material membrane layers.

12. Envelope structure for handling gas diffusion of airships and other balloons primarily for applying method according to claims 1 to 11, said envelope structure of gas spaces of balloons filled with diffusible gas filling, for example airships, lifting balloons and hose-containers has a bordering space,

characterized by that,

the diffusion-free envelope (4) is a multi-layer gas isolation envelope, which has inner and outer isolation layers (8,9) and among the said layers there is minimum one gas isolation separator space (2).

13. Envelope structure according to claim 12 characterized by that there are three isolation layers (8,9,27) as well as two separator spaces (22, 23) applied, which form a multi-layer closed envelope around the gas container/lift space (1) from which the inner separator space (22) with filling gas, the choice of material membrane, pressure, handling method etc. joins the gas container space (1) and an outer separator space (23) joins the surrounding air (4).

14. Envelope structure according to claim 12 or 13 characterized by that three separator spaces (22,23,24) around the gas container space (1) and four isolation layers (8,9,28, 29) forming the latter separator spaces are arranged in a way, that the third, interval separator space (24) is between the two inner and outer separator spaces (22,23) and join them.